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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,780	12/24/2003	Hitoshi Hayakawa	Q79166	9461
23373	7590	10/21/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			TRAN, LY T	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/743,780

Applicant(s)

HAYAKAWA ET AL.

Examiner

Ly T TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/24/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa (USPN 5,907,336) in view of Matsui et al. (USPN 5,896,143) and Matsushashi (EP 786,351).

With respect to claims 1 and 2, Hayakawa discloses an ink jet recording device provides with a recording head that is mounted on a carriage (Fig.1: element 1), a recording medium guide member (Fig.1: element 20) having an ink receiver hole for receiving ink discharged for the recording head, the hole being formed on the recording medium guide in position beyond the left edge of the recording medium conveyed (Fig.1: element 35) as well as having ink absorbing material placed in the ink receiver hole Column 2: line 66-67).

However, Hayakawa fails to teach a hole beyond the right edge, a discharged liquid accumulating means that cumulatively counts the amount of ink discharged into the ink absorbing material, an accumulation determining means which verifies that the count has reached a specified value and switches to a printing mode that does not

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discharge in into the ink receiver hole when the accumulation determining means verifies that the specified value has been reached.

Matsui et al teaches two holes, being arranged to receive the discharged ink, disposed on two side of the recording member (Fig.15: element 30, 31).

Matsuhashi teaches a detector to detect when ever the ink absorbent material of the waste ink tank is full (by detecting the level of ink to see if the waste ink tank is full, the volume of waste ink is counted and the specified value is full) then stop the printing operation (Column 19: line 36-58, printing stop is different mode, so when the printing stops, no ink is discharged into the waste ink tank)

It would have been obvious to one having ordinary skill in the art at the time the invention was make to have multiple discharged holes on the edges of the recording medium as taught by Matsui et al. The motivation of doing so is in order to prevent defective ink discharge, minimizing the width of the recording apparatus, reducing the size and the weight and improving the through put at the time of the recording operation (Matsui et al. USPN 5,896,143 Column 7: line 23-28).

It would have been obvious to one having ordinary skill in the art at the time the invention was made with the discharged liquid accumulating means and stop printing operation when the waste ink tank is full as taught by Matsuhashi. The motivation of doing so is in order prevent the waste ink from leaking from the waste ink tank.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa (USPN 5,907,336) in view of Matsui et al. (USPN 5,896,143) and Sarmast (USPN 6,536,865).

With respect to claims 1-4, Hayakawa discloses an ink jet recording device provides with a recording head that is mounted on a carriage (Fig.1: element 1), a recording medium guide member (Fig.1: element 20) having an ink receiver hole for receiving ink discharged for the recording head, the hole being formed on the recording medium guide in position beyond the left edge of the recording medium conveyed (Fig.1: element 35) as well as having ink absorbing material placed in the ink receiver hole Column 2: line 66-67).

However, Hayakawa fails to teach a hole beyond the right edge, a discharged liquid accumulating means that cumulatively counts the amount of ink discharged into the ink absorbing material, an accumulation determining means which verifies that the count has reached a specified value and switches to a printing mode that does not discharge in into the ink receiver hole when the accumulation determining means verifies that the specified value has been reached and in the printing mode, the recording head discharges ink onto the recording medium and does not discharge ink into the ink receiver holes.

Matsui et al teaches two holes, being arranged to receive the discharged ink, disposed on two side of the recording member (Fig.15: element 30, 31).

It would have been obvious to one having ordinary skill in the art at the time the invention was make to have multiple discharged holes on the edges of the recording

medium as taught by Matsui et al. The motivation of doing so is in order to prevent defective ink discharge, minimizing the width of the recording apparatus, reducing the size and the weight and improving the through put at the time of the recording operation (Matsui et al. USPN 5,896,143 Column 7: line 23-28).

Sarmast teaches a discharged liquid accumulating means that cumulatively counts the amount of ink discharged into the ink absorbing material (Column 4: line 7-9), an accumulation determining means which verifies that the count has reached a specified value and switches to a printing mode that does not discharge in into the ink receiver hole when the accumulation determining means verifies that the specified value has been reached and in the printing mode, the recording head discharges ink onto the recording medium and does not discharge ink into the ink receiver holes (Column 7: line 24-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to calculate amount of ink in the hole and the recording head discharges ink onto the recording medium and does not discharge ink into the ink receiver hole when the amount of ink in the hole reach a specified value as taught by Sarmast. The motivation of doing so is prevent failure of service station due to the reservoir filling.

3. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa (USPN 5,907,336) in view of Sarmast (USPN 6,536,865).

With respect to claims 5 and 6, Hayakawa discloses an ink jet recording device which discharges ink (Fig.1: element 1), a member (Fig.1: element 20) in which a first hole for receiving ink discharged for the recording head, the hole being formed on the recording medium guide in position beyond the first edge of the recording medium conveyed (Fig.1: element 35).

However, Hayakawa fails to teach a control circuit that instructs the recording device to operate in a first printing mode when an amount of ink discharged into the first hole is greater than a predetermined amount wherein in the first printing mode, the recording head discharges ink onto the recording medium and does not discharge ink into the first hole and in the second printing mode, the recording head discharges ink onto the recording medium and discharges ink into the first hole when the amount of ink discharged into the first hole is less than a predetermined amount.

Sarmast teaches that the print head is discharged ink into the reservoir during printing and when the amount of ink in the reservoir is nearly full, it may necessary to restrict the print head service (Column3: line 49-54, Column 4: line 6-8, Column 7: line 24-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to calculate amount of ink in the hole and the recording head discharges ink onto the recording medium and does not discharge ink into the ink receiver hole when the amount of ink in the hole reach a specified value as taught by Sarmast. The motivation of doing so is prevent failure of service station due to the reservoir filling.

4. Claims 5, 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa (USPN 5,907,336) in view of Matsui et al. (USPN 5,896,143) and Sarmast (USPN 6,536,865).

Hayakawa discloses an ink jet recording device which discharges ink (Fig.1: element 1), a member (Fig.1: element 20) in which a first hole for receiving ink discharged for the recording head, the hole being formed on the recording medium guide in position beyond the first edge of the recording medium conveyed (Fig.1: element 35), the recording medium moves in a second scanning direction (Fig.1, Column 2: line 51-55), the first and second position define a line that is substantially perpendicular to the first scanning direction (Fig.1: element 35).

However, Hayakawa fails to teach second hole position beyond second edge, a control circuit that instructs the recording device to operate in a first printing mode when an amount of ink discharged into the first hole is greater than a predetermined amount wherein in the first printing mode, the recording head discharges ink onto the recording medium and does not discharge ink into the first hole and in the second printing mode, the recording head discharges ink onto the recording medium and discharges ink into the first hole when the amount of ink discharged into the first hole is less than a predetermined amount, first printing mode is a printing mode in which a first margin is formed at the first edge of the recording medium, and second printing mode is a printing mode in which no margin is formed at the first edge of the recording medium.

Sarmast teaches that the print head is discharged ink into the reservoir during printing and when the amount of ink in the reservoir is nearly full, it may necessary to



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restrict the print head service (Column 3: line 49-54, Column 4: line 6-8, Column 7: line 24-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to calculate amount of ink in the hole and the recording head discharges ink onto the recording medium and does not discharge ink into the ink receiver hole when the amount of ink in the hole reach a specified value as taught by Sarmast. The motivation of doing so is prevent failure of service station due to the reservoir filling.

Matsui et al teaches two holes, being arranged to receive the discharged ink, disposed on two side of the recording member (Fig.15: element 30, 31).

It would have been obvious to one having ordinary skill in the art at the time the invention was make to have multiple discharged holes on the edges of the recording medium as taught by Matsui et al. The motivation of doing so is in order to prevent defective ink discharge, minimizing the width of the recording apparatus, reducing the size and the weight and improving the through put at the time of the recording operation (Matsui et al. USPN 5,896,143 Column 7: line 23-28).

### ***Response to Arguments***

5. Applicant's arguments filed 7/29/04 have been fully considered but they are not persuasive.

Applicant's argument that stop printing is not a printing mode is not persuasive because stop printing is a non-printing and non printing is one of printing mode as evidence by Takahashi (USPN 4,558,332: abstract).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T TRAN whose telephone number is 571-272-2155. The examiner can normally be reached on M-F (7:30am-5pm).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT

October 14, 2004



**Stephen D. Meier**  
Primary Examiner